

MALKIN, Ye. N.

MAIKIN, Ye. N.: YAZGUR, R.Ye.

[Journal-woucher form of bookkeeping in cooperative production artels].

Zhurnal-no-ordernais forms schetovodstva v arteliakh promyslovot kooperatsi. Moskva, KOIZ, 1954. 134 p.

(MIRA 8:3D)

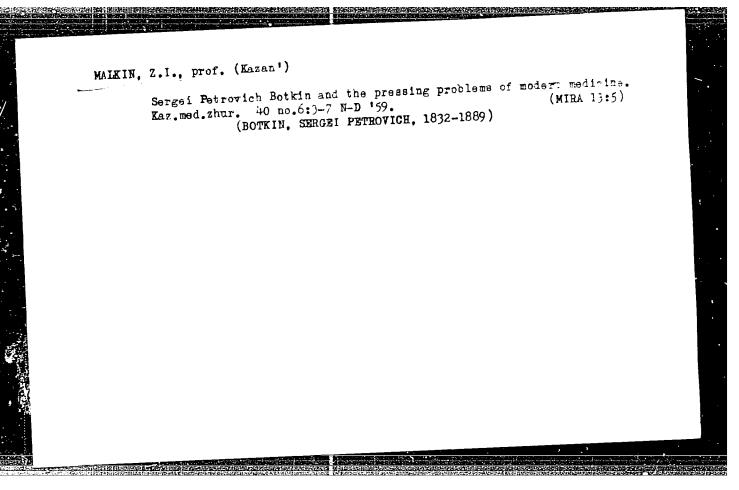
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	USSR/Medicine - Nicotinic Acid Nov/Dec 48	
	"The Pharmaceutical, Dynamic and Therapeutic Effect of Nicotinic Acid," Prof Z. I. Malkin, S. I. Shcherbatenko, L. A. Lushnikova, Faculty Therapeutic Clinic, Kazan Med Inst, 122 pp	
	"Termp Arkhiv" Vol XX, No 6 $T_f \in \mathbb{R}^{r+1}$	
f	Clinical observations indicated that nicotinic acid, used in cases not directly connected with pellagra, compensates for endocrine deficiency of witamin P. Used with sulfonamide preparations it is valuable in dystrophia, chronic colitis,	2
	1816+/25	V26424
	USSR/Medicine - Nicotinic Acid Nov/Dec 48	
	and lobar pneumonia. It apparently helps eliminate unfavorable effects of prolonged treatments with large doses of sulfonamide preparations.	
	MALKIN, Z. I. PROF	garden er skall in transmission er skall skal

MALKIN, Z. I. — O Farmakodinemicheskom deystvii nikotinovoy kisloty.

27912. MALKIN, Z. I. — O Farmakodinemicheskom deystvii nikotinovoy kisloty.

Trudy XII vsessyuz. S"yezda terapevtov. 1., 1049, S. 472-74.

S0: Letopis'Zhurnal'nykh Statey. Vol. 37, 1949.



MALKIN, Z.I.; SHCHERBATENKO, S.I.; BEREZOVSKIY, B.S.; KLYUCHAREVA, S.C.; SALAWATINA, V.V. (Kazan')

Therapeutic tactics in the treatment of rheumatic endomyocarditis and myocarditis. Vop.revm. 1 no.2:44-48 Ap-Je '61.

(RHEUMATIC HEART DISEASE)

(RHEUMATIC HEART DISEASE)

water and in air indicate in both cases filla-

ment surfaces enter into "direct" contact or

USSR/Chemistry - Surface Phenomena Nov/Dec 50

"Adhesion of quartz Filaments in Aqueous For Media," A. D. Malkina, B. V. Deryagin, Inst of Phys Chem, Acad Sci USSR, Lab of Surface Forces

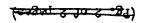
"Kolloid Zhur" Vol XII, No 6, pp 431-447

Measured adhesion of fine quartz filsments in aqueous media using Deryagin's formula to calculate specific adhesion energy. Values obtained correspond closely to Bradley's for adhesion of quartz spheres in air. In air adhesion evergy is independent of duration of contact; in water it grows slowly from zero USSR/Chemistry - Surface Phenomena Nov/Dec 50 (Contd 1)

the equilibrium value approximately equal to value in air. Time for reaching equilibrium value is decreased by addition of electrolytes (increased cation charge) and as temperature is increased. Between 30. 300 this time drops sharply from days to 1 hr. Adhesion kinetics are not affected by time of filament immersion prior to contact or any force pressing them together. Slow separation requires 10-15% less force than rapid. Apparently hydrice istroyed" after contact period. Absence of these kinetics for contact in air and similarity of specific energies for contact in air and similarity of specific energies for contact in air and similarity.

are separated by identical boundary layer of
water. Addition of high concentration of
acetone stabilizes hydrate layers and reduces;
adhesion energy to zero. Explains effect of,
solvation on lyophilic aispersed systems and
has applications in technological processes.

PA 170710

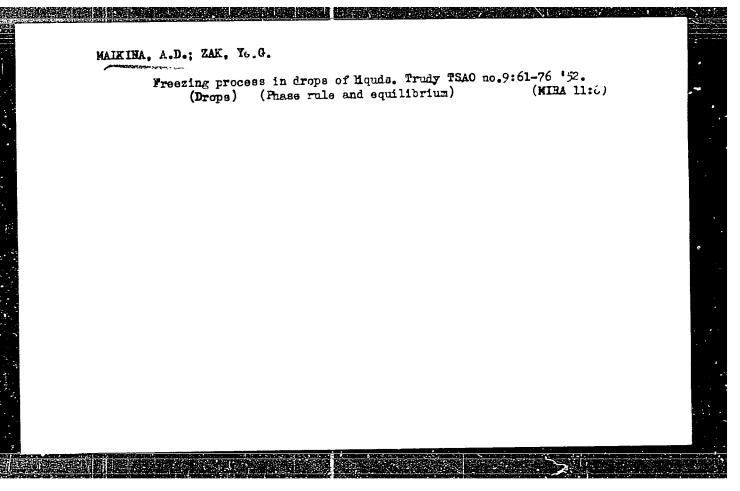


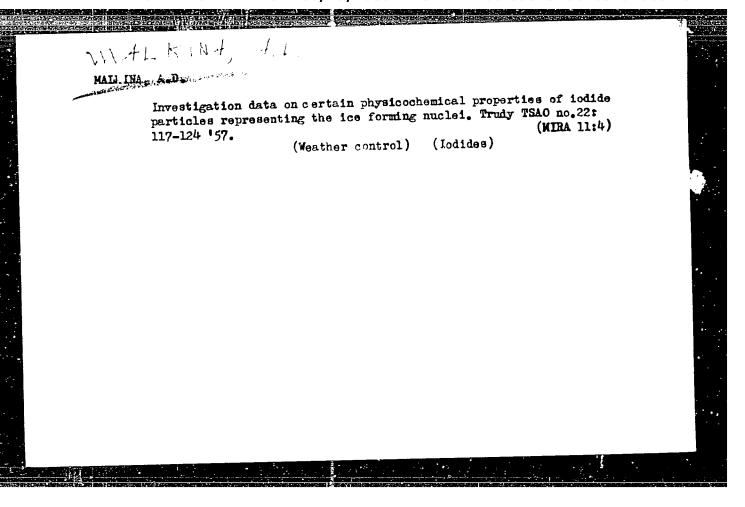
MALEINA, A. I., PENYACIE, E. V., PECKHOROW, T. S.

Diffusion

Determination of diffusion coefficients, evaporation rate and district of valors of various liquids in the communities. Thung Inst. fig. khimii AL COEF No. 1, 1927.

LIST C. FU CIAN ACCESSI NS. Library of Congress, December 1990. UN 140 MB111.





:(-1-7; .: Maikina, A. 5 AUTHOR: Invest. Fitter of the to speed which is Ictide I atticles Which Are Ice-Forming Nuclei (Issledo-TITLE: . swowstv office, Jarly symmetricing yaniye illiko-alli yadrami ) Meteorologiya i Jidrologiya (1,10, az (1,11, 31-3)) (1332) PERICDICAL: In connection with waish, spream serve of topical interest; on the artificial influence upon uniericated bloads and rome ABUTRACT: for the purpose of their absolution or of modely provide tations the invertication of the projection of the entrumes. can be used as ide-forming density is of applied instructions samples of an aprobably rounded by a approach probably by a we tip sted by an isotron loredow, e. by the method of allest Courtvation of the particles and of the restrict of it was possible to obtain the late on size and size of the service particles of ictorite (Agu), lead (dire Frug) and raim.um iodide (CuJ<sub>2</sub>). The obtained that lead to the following that the aerosol particles of read i dide as ... ii opertises of other water-schuole so standed may conserve to in one challed and surface structure by the manifesty of trop and composition partially lose their log-terming properties and a today court a in the atmosphere of water v jor. This result to in directed Card 1/2

Investigation of the Archicago on the Archicago Nuclei

with the experimental lata by Scheffer and proved low important the similarity of or spallographic structures of the reagents and loe-orystals is, As follow from the late liven in this article the inventions great new independent with regard to the herosolp and, Pulp and III main are formed in two differe t wave. These data are beniamed by se results of an ultramicrood unital analysis, performed in parallel, of the electronographic investigations of derocals, The investigations of structure by the plantroac, rapids method showed that begins the liven raw material the columns ence of metallic oxides was not but all in the objectals of me densed on the plate. The councile se of the results of the ultramicross pis and electrons raphic in approximation to ir reliability. In examining the process of the influence and in calculating the active nuclei hornly the introduction of the aerosol agJ into the underested bload or site the less the fact has to be taken into beloint that a portion of the aerosol formed undergoes a shange of thistire.

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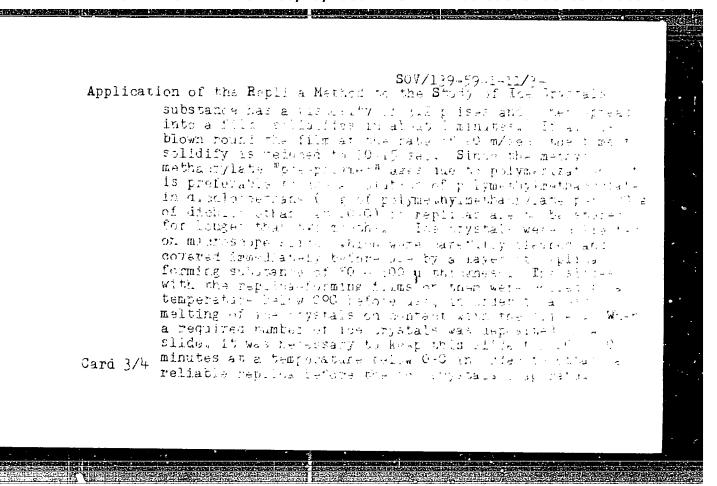
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Card 2/2

- 1. Meteorology 2. Artificial precipitation 3. Icdyrite
- 4. Lead iodide 5. Cadmium iodide

24(2), 3(7) 3.4/139-54-2-11/1-AUTHOR: Malkina, A.D. Application of the Replica Method to the Study of TITLE: Crystals (Promenships metoda tepilk / isubheniyu ledyamykh atistali. PERIODICAL: Investige Tyson at U bechyan Zaveletiy, Firman 1959, No 1 - 4 - 5 2 to 1 plate) (CSSR) ABSTRACT: Madrostructor as the set one of the objects are discount great importance to meteorology in physics. The author reviews briefly the wind already condition production of meplicas of the objectals (Refs ) with the Tre gutto i i let the following simplicate replace materials: a solution of perintersinyl in di missessame. Selluices is abyabstate, polycleviformal to discuspose than a profit la Gain abetime, 7.Pl + languar Nr 28/ give methylmetr acrylate, and a solution of polymethylmsthaolylate of dichleroethane. The author found that the Leat constances to use in production of replicas of the drystals were a "pre-polymer" of methylmethaurylate and a solution of polymethylmethabrylate in dichlorostbabs. Reportat water Card 1/4 formed by tardening of a liquid film of one of these two substances with one crystals in it. After narreening of

SOV/139-59-1-11/34 Application of the Replica Method to the Study of Isa Crystals the replica the ice was melsed and evaporated. This method was first used under laboratory conditions when super-cooled mist was indiced to crystallize by a considerable drop in temperature or by sprinkling salid carbon dioxide on it. A replica of ice crystals formed under these conditions is shown in Fig : (plate), The method was also used under field conditions and a replica of a showflake thus obtained is shown in Fig.1 (plate) Study of tens of thousands of crystals and snowflakes of various dimensions from 5  $\mu$  to 2000  $\mu_{\ast}$  at temperatures from -2 to -26°C, confirmed that a "for-polymer" of methylmethacrylate and a solution of polymethylmethassylate in dichloroethane are the most suitable substances for production of replicas of the crystals. The replicas reproduced well the dimensions of the ice orystals; for example for crystals of more than 30 m in size, discrepancy between the replica and the crystal did not exceed 3 p. The methylmethabrylate "pre-polymer" was prepared by adding 0.01% of benzoyl Card 2/4 peroxide to methylmethacrylate monomer and boiling the mixture for 25 minutes on a water bath. The resultant



S0V/139-59-1-11/;-

Application of the Replica Method to the Study of Ice Crystals

There are 2 figures (in a plate) and 14 references 5 of which are Soviet, 7 English, 1 Japanese and 1 German.

ASSOCIATION: Moskovskiy Tekhnicheskiy Institut Rybnoy Promyshle-

nnosti i Khozyaystva imeni A.I. Mikoyana (Moscow Technicai Institute of Fish Industry and Fish Card 4/4

Farming imeni A.I. Mikoyan)

SUBMITTED: July 28, 1958

MAMEDOU, B.M.; MAIKINA, A.Ya.; PEDOPOU, B.F.

Antifungous activity of certain D-substituted -- mercapture rapi -benzimidazole. Azerb. khim. zhur. no.3:41-43 -465.

(This 19:1)

1. Institut organicheskoy khimit AN DOSP.

STEPANISHCHEVA, Z.G.; MALKINA, A.Ya.

Some data on the problem of the pathogenicity of keratophils. Vest. derm. i ven. 39 no.4:11-15 Ap '65; (MIRA 19:2

1. Mikologicheskiy otdel (Tav. - prof. A.M. Ariyevich) TSentral'nogo kozhno-venerologicheskogo instituta Ministerstva zdravookhraneniya SSSR, Moskva. Submitted April 23, 1964.

# MALKINA, D.G.

Changes in Hassall's corpuscles during thymus regeneration under X-ray irradiation. Biul. eksp. biol. i med. 52 no.10:104-190 (MLA 1:1)

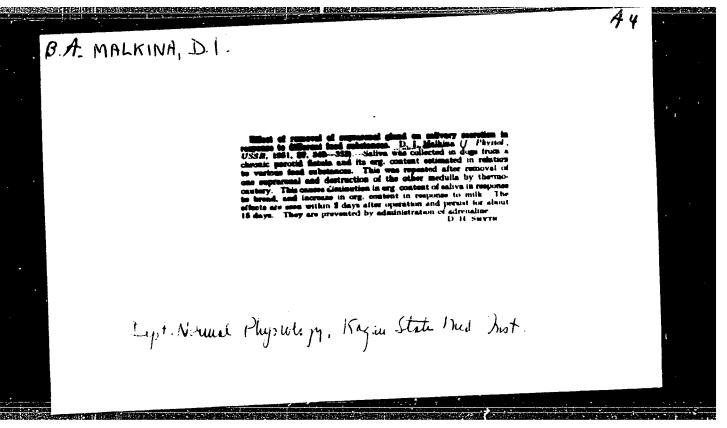
1. Iz kafedry gistologii i embriologii (zav. - chlen-korrespondent AMN DOSR prof. A.A.Boytkevich) Voronezhskogo meditsinskogo instituta (dim. - prof. M.I.Oanoralov). Predstavlena deystvitel'nym chlenom AMN DOSA A.V. Lebedinskim.

(THYAUS GLAND, MADIOGRAPHY) (REGLIERATION (BIOLOGY))

MALKINA, D.G.; GUSEV, A.I.; KHRISTICH, M.K. (Voronezh)

Regeneration of the thymus during changes in the thyroid hormone concentration within the organism. Probl. endok. i gorm. 9 no.3:28-31 My-Je '63. (MIRA 17:1)

l. Iz kafedry gistologii i embriologii (zav. .. chlenkorrespondent AMN SSER prof. A.A. Boytkevich) Voronezhskogo meditsinskogo instituta.



#### MALKINA, D.I.

Innervation mechanism of the salivary glands. Trudy Vses. ob-va fiziol., biokhim. 1 farm. 3:41-45 '56 (MIRA 10:4)

1. Piziologicheskaya laboratoriya kafedry normal'noy fiziologii Kazanskogo gosudarstvennogo meditsinskogo instituta; zaveduyushchiy kafedroy professor A.V. Kibyakov. Kazan'. (SALIVARY GIANDS...INNERVATION)

MALKINA, D.I.; KHAMITOV, Kh.S.

Dynamics of cholinergic reactions of the blood and saliva in pancreatectomized dogs. Fiziol. zhur. 46 no. 5:565-571 My 160.

(MIRA 13:12)

1. From the Chair of Normal Physiology of the Medical Institute, Kazan.

(PANCREAS) (CHOLINE) (CHOLINESTERASE) (SALIVA)

MALKINA, D.I.; KHAMITOV, Kh.S.

Interrelationship of mediators of nervous excitation and various electrolytes. Report No. 1: On the relationship of the acetylcholine - cholinesterase system and the potassium and calcium salts in the blood of dogs following partial depancreatization. Biul exsp. biol.i mad. 50 no.9:37-41 S '60.

1. Iz kafedry normal'noy fiziologii (zav. - prof. 1.N.Volkova)
Kazanskogo meditsinskogo instituta.
(CHOLINE) (CHCLINESTERASE) (POTASSIUM)
(CALCIUM) (PANCREAS.—SURGERY)

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MALKINA, E., inzh.; BAKLYKOV, V.

Works of the Svedlevsk Fire Research Station. Pezh.dele 4 ne.9:4-7
S '58. (MIRA 11:9)

(Sverdlevsk--Fire prevention--Research)

AUTHOR: Tiptsova, V. G.; Malkina, E. I.; Anisimova, Z. A.

ORG: Moscow Institute of Steels and All (1)

ORG: Moscow Institute of Steels and Alloys (Moskovskiy institute stali i splavov)

TITLE: Chemical spectrum determination of impurities in mercury  ${\cal V}$ 

SOURCE: Zhurmal analiticheskoy khimii, v. 21, no. 4, 1966, 459-462

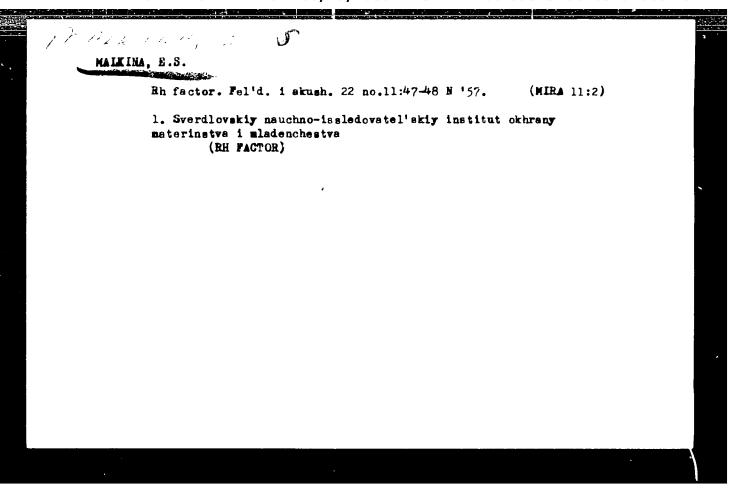
TOPIC TAGS: mercury, fatty alcohol, spectrum determination

ABSTRACT: A study has been made of the use of fatty solvent extraction of mercury from hydrochloric solutions. It was found that isoamyl alcohol is the best extractant for separating mercury from impurities in 2—3 M HCl. A method for determining the chemical spectrum was developed for Mg, Mn, Ag, Al, Pb, Ni, Cu, Ca, Cd, and Zn in mercury with an average sensitivity of  $10^{-6}-10^{-7}\%$  for each element. Orig. art. has: 1 figure and 3 tables. [Based on authors' conclusions.] [NT]

SUB CODE: 11, 07/ SUBM DATE: 18Dec64/ ORIG REF: 005/ OTH REF: 003

Card 1/1 left

UDC: 543.42



GLAUBERZON, Ye.M.; MALKINA, I.D.

Fluorescent lighting at the "Pervomayskaya" Factory in Leningrad.
Svetotekhnika 7 no.5:22-25 My '61. (MIRA 14:6)

1. Fabrika "Pervomayskaya" i LO Gosudarstvennogo proyektnogo instituta "Tyazhpromelektroproyekt".

(Leningrad—Fluorescent lighting)

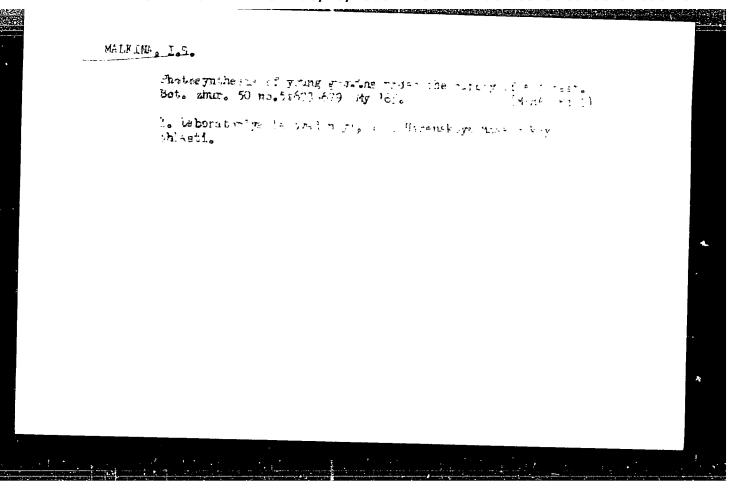
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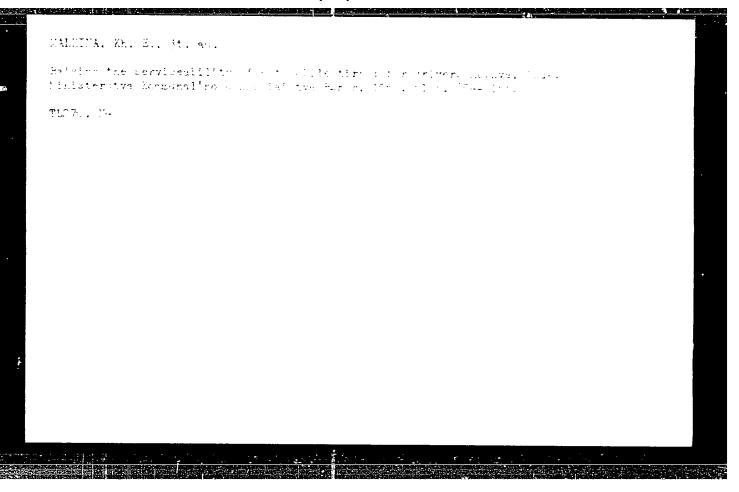
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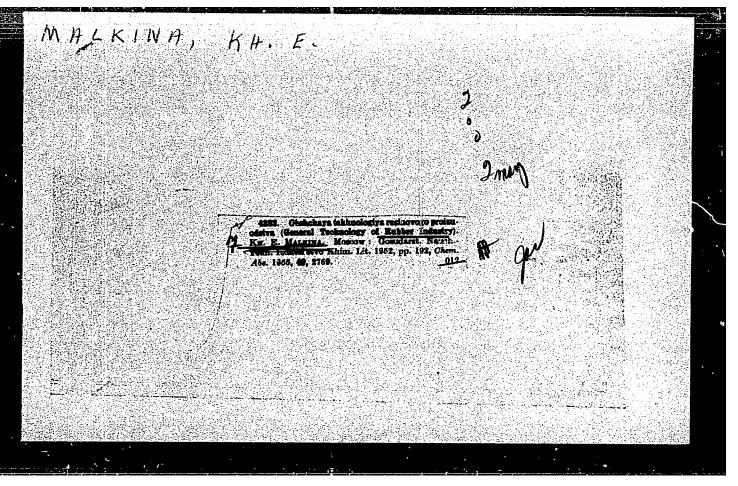
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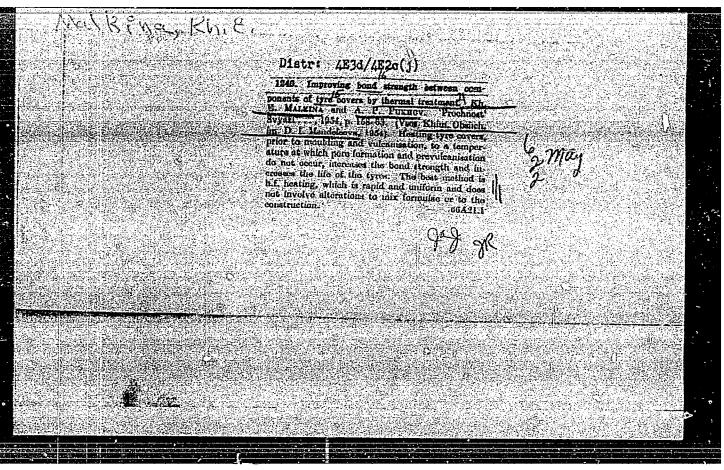
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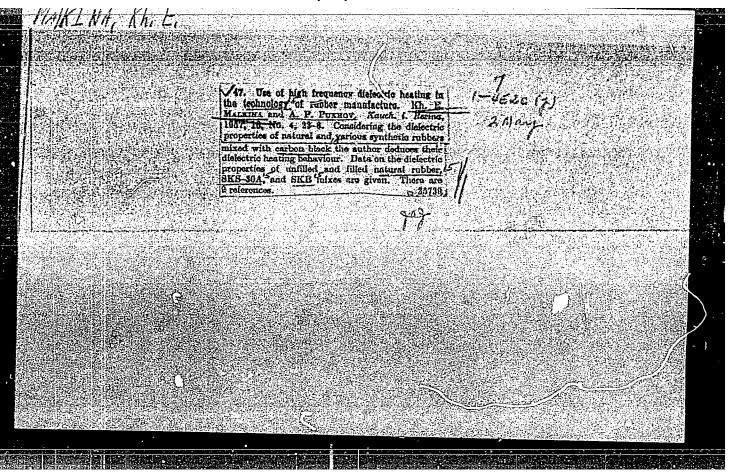


FMFINS, FH. E.

Malkina, Mh. E.

"Investigation of new methods of heating in the technology of rubber production (TVCn electric heaters)." "In Tigher Education. Micros institute of Chemical Fachinebuilding. Foscow, 1986. (Dissertation for the degree of Loctor in Technical Sciences)

Knishnava letopis! No. 35, 1956. Noscow



KOROTKOVA, A.A.; MALKINA, Kh.E.; PUKHOV, A.P.; FOMINA, L.S.

High-frequency drying of latex sponge. Kauch.i rez.l6 no.9:9-11
S '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i
Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy.

(Poam rubber--Drying) (Induction heating)

MALANE AN E

62B-2-6/a AUTHORS: Kibal micov, V. I; Maltina, Kh. E; Putthoy, A. P:

Tikhomirov, P. I.

TITLE: Decrystallisation of Natural Rubber by Heating with a

High Frequency Electric Current. (Decristallizatsiya natural'nogo 'tauchu'ta putem nagrevaniya ele'ttriches'ti:

tokom vysofloy chastety).

PERIODICAL: Kauchuk i Resina, 1950, Nr.2. pp. 31 - 34. (0337).

ABSTRACT:

Natural rubber his a congealed structure and is not elastic (the hardness of the surface = 60/70 units, according to Shore). It cannot, therefore, be processed mechanically without preliminary lecrystallisation. It is usually decrystallised by neating with the aid of a hot air current in special chambers with a periodic, uninterrupted or combined action; deficiencies of these chambers are discussed. Decrystallisation of natural rubber, by heating with high frequency current, makes it possible to make use of the influence of the heat - inertia properties of natural rubber on the rate of the process and thus decreasing the duration of the decrystallisation process. The transition from

the crystalline to the amorphous state takes place when Card 1/3

heating to a temperature of 450. The hardness of the

62B-2-6/8

Decrystallisation of Natural wider by Heating with a High Frequency Electric Current.

rubber decreases to 10 - 20 units on melting of the rubber crystals, and the rubber can then be processed mechanically. Esturil ruber is an excellent dielect-rubber has a coefficient of dielectic loss = 0.006 -0.100 (generally 0.02 - 0.06). It can be successfully heated in a high frequency electric field. The Leningrad Tyre Factory has introduced a plant for the decrystallisation of natural rubber, consisting of a heating chamber and a generator TV I type Mr2 -30 (viz. Fig. A and B, page 32); details of the plant are given. When heating natural rubber with high frequency currents it is observed that (1) then heating to a temperature of 140°C no detrimental signs of resinification of the natural rubber occurs due to the short period of influence of increased temperature, (2) when natural rubber is heated to a temperature above 40 - 450, the strength of the bonds between the protective and the remaining foils, and also between the separating foils, is lowered which makes it easier to remove the protective layers to separate the foils. The temperature is not uniformly

Card 2/3

Decrystallisation of Matural Rubber by Heating with a High Frequency

distributed then the generator ATA-30 with one earth electrode is used. This is caused by the large concentration of the electric field near the high potential electrode which has a smaller surface than the low potential (earthed) electrode. Comparative data on decrystallisation methods for natural rubber are given in a Table on page 75. This method makes it possible to suppress resinification of the rubber, thus improving its quality. To ease the process of decrystallisation, and to improve the sanitary hygienic conditions of work, the charbers used for the decrystallisation do not require long heating, and therefore can be used continuously as well as periolically. The charbers can also be used for the decrystallisation of chloroprene rubber. There are 2 Figures and 1 Table.

ASSOCIATION: Leningrad Tire Plant, Scientific Research Institute of the Tire Industry. (Leningradskiy shinnyy zavod, Nauchno-

issledovatel'skiy institut shinnoy promyshlennosti).

AVAILABLE. Library of Congress.

Card 3/3 1. Rubber-Processing 2. Rubber-Decrystallization 3. Rubber-Blectrical properties 4. Rubber-Industion heating

SOV/138-58-7-6/19

AUTHORS: Malkina, Kh.E., Pukhov, A.P. and Savinkova, A.M. TITLE:

Methods of Drying and Vulcanising Latex Fraducts (Metod sushki-vulkanizatsii izdeliy iz lateksa)

PERIODICAL: Kauchuk i rezina, 1958, Nr 7, pp 21 - 26 (USSR)

ABSTRACT: Although water in latex gel is only loosely held to the Laterial, drying is slow because of low internal diffusion. Latex products cannot be dried effectively by convection.

With an initial water content in the gel following syneresis of the order of 40%, drying temperatures are limited because of the danger of formation of fores. The possibilities of ligh-frequency heating are considered to be limited because an air gap nuct be allowed between the electrodes and the gel to permit the

water vapour to escape and the volta e necessary to overcome this air gap will give rise to high current in the gel, since the internal resistance of the vet gel is comparatively low. The high current may spoil the product,

and in any case the gel will lose heat rapidly to the more massive core on which it is laid.

Short-circuit beating, by passing current directly through the gel, becomes slow as the gel dries off and

Cardl/5

Method of Drying and Vulcanising Latex Products

SOV/138-58-7-6/19

suffers from difficulties through corrosion of the electrodes. The preferred method, therefore, is one of drying by conduction from a heated core on which the gel is laid. Water evaporates freely from the exposed surface but vapour held between the gel and the core inhibits migration to the under-surface. The heat taken in from the core is not sufficient to ensure intensive drying at thick sections, so supplementary heating was provided by radiation from an infra-red lamp above the gel. With this method, the processes of drying and of vulcanisation are inseparable Experiments were made with gels from latex Nr 4, using specimens 200 mm dia. and 12 mm thick, laid on an electrically heated plate or core. Layers were cut from top, centre and bottom of these specimens throughout the drying time for meisture determination. The curves in Figure 1 show percentage moisture against time, in hours, for drying by conduction from the heated core alone. The four diagrams are for four different core temperatures and Curve 1 is for top, Curve 2 for middle and Curve 3 for bottom of the specimen in each case. Figure 2 shows the

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Method of Drying and Vulcanising Latex Products

same story but in this case the three diagrams are for top, middle and bottom of the specimen and four curves are plotted on each diagram for four temperatures from 70 -C. These curves suggest that the optimum core temperature is 110 Tests were then conducted with combined heating, using a 500 W infra-red lamp and holding the core temperature at 110 °C. The three diagrams in Figure 3 are for top, middle and bottom of the specimen and the four curves on each diagram are for different voltages applied to the lamp - Curve 1 without radiation, to Curve 4 with lamp at 180 V applied. The separate diagrams in Figure 4 are for no volts, 110 V, 140 V and 180 V, respectively and the three curves on each diagram are, 1 for top, 2 for middle amd 3 for bottom of the specimen. The temperature at which pore formation, at any given moisture content, occurs must be the limiting factor. Figure 5 shows the relation between these two factors. With an initial moisture content of 35%, the specimen temperature must be below 112°C. The latex specimens, tested, vulcanise at 150 - 160°C. Consequently, moisture

Method of Drying and Vulcanising Latex Products

SOV/138-58-7-6/19

content had to be reduced to 4-5% before this temperature could be applied. The temperature should be raised as drying proceeds. Figure 6 shows the rate of eduction of moisture with - Curves 1 constant core temperature of 110 °C and, Curves 2, increasing core temperature as drying proceeds. From this work, parameters were derived for drying an actual latex product by combined conduction and radiation heating.

The experimental apparatus shown in Figure 7 is set up to dry and vulcanize a bathing shoe of 2-3 mm thickness at the time the gel was formed. Table 1 shows the properties attained in different parts of the shoe, with various heating regimes.

Table 2 shows the effect of vulcanising at wrious temperatures for different length of time on this Nr 4 latex. This suggests that optimum conditions are obtained at the higher temperatures for short times. Finally, Table 3 shows an optimum drying and vulcanising regime for production of an ectual shoe from this latex. It calls for a two-hour drying period with temperatures raised from

Uard4/5

SOV/138-58-7-6/19 Method of Drying and vulcanising Latex Products

> 60 - 130  $^{\circ}\text{C}$  in four stages and a vulcanising time of 25 minutes at 150  $^{\circ}\text{C}$ . The moisture content at the time of transition from drying regime to vulcanising regime should not exceed 4-5%. There are 7 figures and 3 tables.

ASSOCIATIONS: Neuchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific-research Institute of the Tyre Industry) and

Nauchno-issledovetel'skiy institut lateksnykh

i rezinovykh izdeliy (Scientific-research Institute for Latex and Robber Products)

1. Synthetic rubber--Dehydration 2. Synthetic rubber- ulcanicard5/5

zation

AUTHORS: Coranskiy, V.V., Malkina, Kh.E. and Pukhov, A.P.

TITIE: Preheating Tyre Casings Before Moulding and Vulcanisation

(Nagrev pokryshek pered formovaniyem i vulkanizatsiyey)

PERIODIC. L: Kauchuk i Rezina, 1958, Nr 11, pp 11 - 17 (USSR)

ABSTRACT: Preheating improves the strength of bond between the parts of the tyre by increasing the interaction between rubber mixes at the interfaces between layers, as a result of higher plasticity and dispersibility. It gives increased adhesiveness at these surfaces through diffusion of sulphur into the rubber mass away from the surfaces and reduction of stresses in the casing at different stages

of the manufacturing processes.

With preheating before moulding or before vulcanisation, tyres show increased lives on rig test and considerable decrease in scatter between greatest and least lives on test. Best results are obtained where tyres have been preheated by high-frequency current and are subsequently pressed and moulded without intermediate cooling, as shown in Table 1. Figure 1 shows the plasticity of different mixes used in the tyre against temperature. A sufficient degree of plasticity for satisfactory moulding is attained in the breaker and carcass mixes at 60 - 70 °C, whereas

Card1/5

SOV/138-58-\l-+/14

Preheating Tyre Casings Before Moulaing and Valcanisation

the tread mix is much less plasticised at this temperature. Equilibrium between the solutility of sulphur and the content of sulphur in the mix occurs at about these temperatures. Experiment shows that preheating to this temperature gives least relaxation and greatest improvement in tyre quality. Higher temperatures can lead to porosity and pre-vulcanisation. Average breaker rubber mix is subject to pore formation at 73°C and in natural rubber tyres the breaker mix is the most sensitive to pre-vulcanisation. Tyres may remain in a pre-heated condition for 40 - 50 min if their temperature does not exceed 70 - 80°C.

Different parts of a tyre have different electrical characteristics which leads to unequal temperature distribution in a high-frequency heating field. The simplest and most effective arrangement for HF heating is between parallel electrodes, as shown in Figure 2. Temperature differences in an unmoulded synthetic rubber tyre prehea for 8 to 10 minutes in an HF field at 8 kV and 11 megacycles are shown in Table 2 and Figure 5. Dielectric constant times loss angle gives a lower loss factor for the tread part of the tyre than the internal parts, so.

Card2/5

Preheating Tyre Casings Before Moulding and Vulcanisation

assuming that the specific heats of the different rubber mixes are similar, the carcass and breaker rubber will attain higher temperatures. This is a desirable state of affairs and is one of the advantages of HF heating as compared with preheating by hot air. Heat treatment may also be applied to moulded tyres before vulcanisation. In this case, temperature distributions are as shown in Table 4 and Figure 6. (Figures 5 and 6 show temperature distributions with HF heating and with hot-air heating.) Where a moulded tyre is preheated before vulcanisation, the scatter on life test is reduced if the tyre is subsequently cooled before vulcanisation. The curing bag attains a high temperature on account of water in the composition of the lubricating medium used on the surface of the bag. The authors suggest that the best effects of heat treatment are obtained with two-stage treatment before moulding and before vulcanisation; comparisons of rig test lives with HF heating at different stages of manufacture are given in Table 6. Heat treatment of vulcanised tyres is also beneficial, having an annealing effect upon stresses remaining in the

Card3/5

Preheating Tyre Casings Before Moulding and Vulcanisation

tyre after vulcanisation. Rig tests on tyres so treated show double life, on average, and great reduction in scatter. Results of field tests on three different classes of road surface are shown in Table 7, and confirm that tyres subjected to HF heat treatment before moulding and vulcanisation have substantially better life than standard tyres, particularly on bad surfaces. HF heating shortens vulcanising time, particularly as the curing bag is brought up to its operating temperature during preheating. Vulcanising time can be reduced from 110 minutes at 145 °C (with standard vulcanisation) to 76 minutes at 160 °C with HF preheating, with eneral improve ment in bond strength between layers as is evidenced in Table 9. Table 10 compares rig test lives of tyres with standard vulcanisation for 110 minutes at 145 °C with lives of tyres vulcanised for shorter times at higher temperatures following HF heat treatment. Vulcanisation for 80 minutes at 155 °C following HF heating gave more than double life.

Card4/5 Figures 7 and 8 show plant for preheating tyres. The lower

Preheating Tyre Casings Before Moulding and Vulcanisation

electrode is formed by a conveyor belt constructed from aluminium angle sections. The upper electrodes are aluminium plates which can be raised or lowered in hydraulic rams and which are brought close to but not in electrical contact with the tyres. Tyres are preheated in this plant after moulding, before vulcanisation, for 4 1/2 minutes at 8 kV and 17 megacycles. Power consumption per tyre is 3.5 to 4 kWh. The use of HF heating is not satisfactory with tyres containing electrically conductive material such as carbon black, as the presence of conductive particles on the surface of the tyre leads to instability in the heating process through short-circuiting. There are 8 figures and 10 tables.

ASSOCIATIONS: Moskovskiy shinnyy zavod (Moscow Tyre Factory)
Nauchno-issledovatel skiy institut shinnoy promyshlennosti
(Research Institute for the Tyre Industry)

Card 5/5

Sylfan 1272 2 12 12 12 A . 1/A . . Translation from: Referativnyy znumal, Enimitys, 1960, No. 22, 1. 51- # 失了。 Korotkova, A. A., Malkina, Kn. E., Pukhis, A. F., Potina, 1. 3 AUTHORS Drying of Latex Sponso by Aprilying High Property of their

PERIODICAL: In N.-1, in-ta resin : lateach, izdelly, if the color

The authors studied the drying process of the latex opthge by n is TEXT currents. The unit for drying the wars consisted of a n f -generator, measure electrodes, and measuring instruments. The h.f.-generator with the is illustion power of 1.5 kw was made up with two tubes of the TK-3000 (3K-3000) -type Tob heating electrodes are plates of sheet aluminum of 300 x 200 x 3 mm in size test pieces with parallelepiped shape of 150 x 100 x 40 mm in size were heated in the electrical h.f.-field of the planeparallel heating electrodes which had neither thermal non electric contact with the test pieces. In this way, the removal of the water vapors was promoted which were liberated from the material in the drylls. process. During the drying process of the sponge at 80°C, its moisture decreases from 55 to 1.2%, the tangent of the dielectric loss angle tg 6; decreases from

Card 1/3

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\$/081/80/000/122/013/116 A005/A001

Drying of Latex Sponge by Applying dign Frequency Currents

0.34 to 0.636, and the dielectric constant ( $\xi$ ) decreases from 8.86 to 1.56. the decrease of  $tg \in and \mathcal{E}$ , their values remain in that range in writin to sponz is heated further effectively. This charge of the electric characteristics factor ably affects the quality of the sponge, because it dies not allow the correspond of the sponge. In the general case, the electric sponge properties are decended on the composition of the latex mixture, the processity of the sponge, and the carefulness of washing off. The better to- washing off of the sponge, the righer is the drying process rate. The intensift ation of the sponge drying by increasing the frequency of the current and the intensity of the electric field is possible  $\omega$ to a definite limit which is due to the decrease in the quality of the spunge at yet very quick drying. In the arging of a test place of 40 mm thickness for 6 minute. the rate increases during the first minute, then it reades a maximum, and after 3 minutes the drying rate is low, and one piece is defed in the main remaining 3 minutes, the moisture content is object, to the outlinese value of the greater the thickness of the test piole, the lower in the drying rate. The tempore ture of the sponge during the drying protect it not constant. If the drying intensity is low, the functional curve of the oponge temperature versus the implies duration passes through a maximum, not exceeding a definite allowable value. At

Card 2/3

\$/981/69/900/122/913/914 A005/A001

Drying of Latex Sponge by Applying High Frequency Currents

intense drying, the sponge temperature increases monotonously. The higher the accuracy in washing off of the sponge, the lower is the value of tg  $\delta$ , the lower the probability of its overheating during the drying process. The layout of a pilot unit for sponge drying is described. The optimum conditions for sponge drying and the economical substantiation of the expediency of drying the sponge, by h. f.-currents are presented.

I. Pil'menshteyn

Translator's note: This is the full translation of the original Russian abstract

Card 3/3

Malkin, Kh.F. sair home, 7.1., to distance Technical values

TITLE: The Application of HF Heating in Rubber Manufacturing Processes (o primenent) in the angless of technical reliable recipions of primenent in the angless of technical recipions of the periodical reliable recipions of the distance of the periodical "Investiga vysahikh uchebnykh cavedenty - redicted nika" the authors state that high frequency heating in the electric field or a capabitor is especially suitable for the rubber industry. Thereby, they refer to the paper of A.V. Metachil, published in "Relicited hims", Vol 1, hr 1, g Ib. in this connection, the authors list the technological processes which are inveloped with the application of high frequency heating by the MI chinney promyshing in the actual file Research Institute of the Tire Industry): description Research Institute of the Tire Industry): description of natural rubber;

S V [1]v=v=1-1 )/22. The Application of HF Heating in Rubber Manufacturing Processes.

prelimin by heating of ractor, such control of racher-fairing point to raior to maginate and valuational
drying of sponge products; etc. Prother, the Institate wishe on the valuationation of the diin metal holds, etc. The introduction of the dielectric heating method is believed by the completely
included output of high frequency generators for
lielectric heating. In addition, the levelopment
of measuring instruments with small imput cape itanced is heressary, cince the existing models have
too high input capacitances which letture the HP
generators, for example, the tate voltmeter VKS-7b.
The application of xample, the tate voltmeter vKS-7b.
The application of the production costs and improved
to a relation of the products. Pinally, the authors
point out that the number of high to premay become
repositions what he improved

Carl 53

The Applica	ion of HP Heat. To it Pakter Mandachteing Processes	
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ABU00TATION:	Mil shimny in myshlemment: MKhP (Scientific Research Institute of the Tire Initati, of MKhP)	
Jan 1 3,7		

SOV/138-59-4-6 2 6

AUTHORS: Korotkova, A.A., Fomina, L.S., Malkina, Kh. E., Pukhov, A.P.

TITLE: A Method of Gelling and Vulcanizing Foamed Articles from

Latex ( Metod zhelatinirovaniya-vulkanizatsii gubchatykh

izdeliy iz lateksa)

PERIODICAL: Kauchuk i Rezina, 1959, Nr 4, pp 19-23 (USSR)

ABSTRACT: Latex foams can be gelled and vulcanized by radiofrequency current in the 10-20 mc/s range, by highfrequency current from machine generators in the 500 to 10,000 c/s range, or at power frequency of 50 c/s. Experiments were made using moulds formed of reinforced rubber with electrode in the base and in the lid of the mould. Standard "Revertex" mixes containing 50% dibutylphthalate plasticizer were used for these tests. Difficulties through corrosion were encountered when working at 50 c/s frequency with the original aluminium electrodes. Pests were made with various electrode materials listed in Table 1 and it was found that stainless steel, mark EYaIT, showed only 0.002% weight loss on a four-hour test at 50 c/s and negligible corrosion with up to 10 or 12 repeat tests of this duration. At

Card 1/4 higher frequencies the electrode life with this material

SOV/138-59-4-6/2 6

A Method of Gelling and Vulcanizing Foamed Articles from Latex

is prolonged indefinitely. The samples first tested were 100 x 100 x 35 mm in dimensions. The resistivity of various Revertex mixes, and of the foam blown from them to 3 times original liquid volume, are given in Table 2. Figure 1 shows change in resistivity with temperature at applied voltages of 5 and 8 volts. Figure 2 shows the current/voltage relationship for a foam extended by a factor of 3.5, and variation of resistance with expansion of the foam is tabulated in Table 3. The resistance of the later mixes and the foams follows Onm's law, and the resistance increases considerably on foaming. The curve of temperature versus time for electrified intendities of 12.5, 11.0 and 6.2 V/cm are shown in the curves of Figure 3. Experiment: were then carried out on specimens 260 x  $\sqrt{50}$  x 40 mm at 50 V (12.5 V/cm) and 25 A initial current on the electrodes. Variation of temperature and current with time is shown in Figure 4. The current was applied for 10 minutes, after which time the temperature reached 130°C. The specimen are left in

Card 2/4

SOV/138-59-4-6/26

the closed mould for a further 10 minutes and cooled back to 90°C, at which temperature the foamed specimen could be removed from the mould without change of its moulaed removed from the mould without change of its moulaed removed from the specific gravity, modulus, permanent dimensions. The specific gravity, modulus, permanent deformation on compression, and ageing coefficients of specimens, where heating current was applied for 8, 10 and specimens, where heating current was applied for 8, 10 and 12 minutes, are compared in Table 4. Tower consumption is estimated at 0.3 to 0.45 kWh per kg of foam (or sponge latex). In order to produce articles such as car seat cushions with cavities in the foam, it is necessary to dispose the electrodes in the projections forming these cavities in strips so that the area of the top and bottom electrodes are equal. Exploratory trials were made on cuthions 350 x are equal. Exploratory trials were made on cuthions 350 x 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension, loaded at 6 V/cm and with an initial 260 x 200 rm dimension and loaded at 6 V/cm and with an initial 260 x 200 rm dimension and loaded at 6 V/cm and with an initial 260 x 200 rm dimension and loaded at

SOV/138-59-4-6/26

A Method of Gelling and Vulcanizing Foamel Articles from Latex

There are 4 figures, 4 tables, and 3 English references, which include British patents 677482 (1950) and 654238 (1946).

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (The Scientific-Research Institute for Rubber and latex Articles and The Scientific-Research Institute of the Tyre Industry)

Card 4/4

PHASE I BOOK EXPLOITATION SOV/5106

#### Malkina, Khristina Emil'yevna

Obshchiye osnovy teknnologii rezinovogo proizvodstva (General Technological Principles of the Rubber Industry) Moscow, Goskhimizdat, 1960. 302 p. Errata slip inserted. 15,000 copies printed.

Ed.: S.I. Khodosh; Tech. Ed.: Ye.G. Shpak.

PURPOSE: This textbook is intended for workers in the tire and rubber industry, taking industrial engineering courses. It may also be used by students in tekhnikums.

COVERAGE: The book deals with the general principles of rubber manufacturing technology. It includes data on basic and auxiliary raw materials, including rubber and substitutes, reclaimed rubber, carbon black, textile materials, and ingredients for the manufacture of rubber. Principles for preliminary processing of these materials in preparatory plants at rubber factories are described along with the equipment used in the manufacture of rubber articles.

Card 1/9

S/138/60/000/007/005/019 A051/A029

AUTHORS: Malkina, Kh.E.; Pukhov, A.P.; Ionov, V.A.

TITLE: The Ultrasonic Defectoscopy of Tire Casings

PERIODICAL: Kauchuk i Rezina, 1960, No. 7, pp. 12 - 20

TEXT: In most Soviet plants the quality check of tire casings has been conducted until recently by external examinations and knocking. This method was satisfactory due to its subjective nature. The ultrasonic defectoscopy method is recommended. Figure 1 represents the operation principle of an ultrasound apparatus. The NIIShP of the Soviet Union has designed an apparatus which is described in great detail. It has 6 channels plus an extra receiver and generator to ensure continuous operation in cases of a channel break-down. Figure 2 is an external view of the apparatus. The circuit diagram (Fig. 3) of the apparatus contains a block of feeders, a generator, receivers and transmitters. The feeding block has its own regulators, located on the front panel of the casing. The circuit diagram of the feeding block is shown in Figure 4, and that of the generator in Figure 5. The circuit diagram of the receiver is given in Figure 6. A diagrammatic cross-section of the transmitter is seen in Figure 7. The emitter

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S/138/60/000/007/005/010 A051/A029

The Ultrasonic Defectoscopy of Tire Casings

contained in the metal body is made of barium titanate. The thickness of the barium titanate plate is calculated from the formula

 $t = \frac{2200}{\varphi} = \frac{2200}{50} = 44,$ 

so that it can function at a frequency of 50 and 150 Mc. In the formula t is the thickness of the plate in mm,  $\varphi$  - the resonance frequency in Mc. The casings being tested must be clean. Otherwise the defectoscope may give false readings. Water is used as wetting liquid with additions of 10 - 15% ethyl alcohol to ensure more uniform wetting of the casing. The authors tested casings of various sizes, more uniform wetting of the casing. The number of correct readings represented starting at 5.60 - 15 to 12.00 - 20. The number of correct readings represented 93% of the total tested. There were different defects present, such as lamination, porosity, air bubbles, foreign bodies, destruction of the casing. The results of the tests conducted with the defectoscope are listed in Table 3. As a result of the experiments and tests carried out by the authors, several conclusions were drawn: 1) The defectoscope operating with 50 kc can detect defects in casings of small dimensions comprising a thin-walled body (5.60 - 15), as well as in massive casings with thick-walled bodies (12.00 - 20). 2) The size of the smallest defects detected with the apparatus on an equivalent surface was 7 - 8 mm in diameter, which shows that the apparatus has a high sensitivity. False data in most

Card 2/3

The Ultrasonic Defectoscopy of Tire Casings

\$/138/60/000/007/005/013 A051/A029

cases meant the detection of "false" defects. 4) The reliability of the apparatus in operation is high. During its functioning period (one year) no damages in the electrical part of the apparatus were observed. 5) The apparatus described can be installed in tire plants as a laboratory and production apparatus for selective, total or combined flaw detection, as well as in automobile and tire-repair plants. 6) The drawback of the defectoscope is the absence of a recorder of the defects shown. The duration of the testing of one casing will be 4 min when an automatic recorder and a perfected tub are introduced into the design of the defectoscope. There are 3 tables, 4 circuit diagrams, 2 diagrams, 1 graph, 1 pnctograph and 3 English references.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

Card 3/3

#### "APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R001031910001-5

s/c61/62/000/008/054/057 arsa/arot

AUTHORS:

Malkina, Er. E., Foshov, A. F.

CICLE

Drying and volcance them of momen latex introles by an industrial-frequency observat and content radiation

PERIODICAL:

Referentively and made. Thin.ya. no. 0, 1960, 601, abstract 01394 (Vegation tekken. i except lafter. Nei. in-t tekken.-ekon. issled. Sci. 160-48 Size bin. SSSR pe khimi., no. 4, 1961, 16-49)

TEXT: Gelatin sation-vilounisation of latex sponge by an injustrial-frequency current and the contest-radiation method of trying-valcanizing monclithic latex articles are beliefed. In both cases, an industrial frequency current of 50 ops will seed. Talbanization of articles 300 mm thick at a current density of 0.0 a/om², took 20-25 min, which is 4-5 times shorter than with heating by both trunsfer. Energy consumption in valcanization is 0.7-0.45 km-as per ky of sponge. A second method was developed for latex articles projuced by gelatinization. A metal core, on which is dried and valcanized a gel of complex configuration, is

Card 1/2

Deging and vulcanization of	s/un1/60, coc/cos/cs4/c57 shoe/shot
provised with in electric leaders for subjects to infra-recise stations, in the temperature at which significant vulcanizing time is 185 min, energy of the core and 3.5 km-hr for the informaliation.	tick becars. In total drying-

MALKINA, Kh.E.

Vulcanization shops of tire factories in operation. Kauch.i rez. 20 no.3:44-46 Mr '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Tires, Rubber) (Vulcanization)

MALKINA, Kh.E.; KRASOTINA, A.N.; Prinimali uchastiye: ZUBKOVA, I.A.; RYZHKOVA, K.A.; SALOMASOVA, A.M.

Compounding formula, manufacture, and uses of carbon black-free lubricants for vulcanization molds. Kauch.i rez. 20 no.7:30-33 Jl '61. (MIRA 14:6)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlernosti.
(Vulcanization--Equipment and supplies)
(Lubrication and lubricants)

MALKINA, Kh.E.; VOSTROKNUTOV, Ye.G.; KAMENSKIY, B.Z.

Conference on tire recapping. Kauch. i rez. 20 no.10:54-57 0 '61.

(Tires, Rubber)

(MIRA 14:12)

5(2)

SOV/75-14-3-19/29

AUTHORS:

Shat'ko, P. P., Vasina, N. T., Podol'skaya, V. I.,

Malkina, L. A., Ponomareva, T. F.

TITLE:

Determination of Micro Amounts of Arsenic by Using a Solution of Bivalent Chromium (Opredeleniye mikrokolichestv mysh'yaka

s primeneniyem rastvora dvukhvalentnogo khroma)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3, pp 358-359

(USSR)

ABSTRACT:

The reduction of the ions of the pentavalent arsenic is carried out on freshly precipitated metallic copper as collector. The copper is precipitated by means of chromium salts and dissolved again with iron ammonium alum, the residue consisting of metallic arsenic is determined iodometrically in the usual way. The method permits the determination of 0.02 mg As in 100-200 ml. It was checked on standard samples of bronze and brass. In the analysis of copper alloys a preceding addition of CuSO is not necessary. Tin, lead and other components of bronze and brass do not dis-

turb. There are 1 table and 11 Soviet references.

Card 1/2

#### CIA-RDP86-00513R001031910001-5 "APPROVED FOR RELEASE: 06/20/2000

SOV/75-14-3-13/27 Determination of Micro Amounts of Arsenic by Using a Solution of Bival ... Chromium

ASSOCIATION: Luganskiy gosudarstvennyy meditsinskiy institut

(Lugansk State Medical Institute)

SUBMITTED: June 26, 1958

Card 2/2

TUMANOV, A.A., MALKINA, L.A.

Ensym.tic catalytic reactions for analytical purpose. Trudy pc khim.i khim.tekh. no.1:118-123 '64.

1. Submitted July 10, 1963.

(MIRA 18:12)

MALKINA, L.I

AUTHOR:

85-58-2-19/36

Fine:

Use of Liquid Oxygen in High-Altitude Flights (Ispol'zovaniye

zhidkogo kisloroda pri vysotnykh poletakh)

PERIDATCAL: Kryl'ya rodiny, 1953, Nr 2, p 17 (USSR)

AESTRA ...

The author discusses the use of liquid oxygen during high altitude flying, referring to the KPZh-1 oxygen gasifier produced by the Ukrainskiy fiziko-tekhnicheskiy institut (Ukrainian Physico-Technical Institute) in 1935 as the first of its kind. Subsequent improvements were incorporated in the KPZh-10 used by M. M. Gromov in his flight from Mescow to the USA, via the North Pole. The KPZh-30 developed in the last few years under the supervision of K. S. Butkevich is described, and future problems in this field are briefly mentioned, including those involved in interplanetary flight. There is one drawing of the KPZh-30.

AVAILARIE:

Library of Congress

Card 1/1

MALKINA, L

AUTHOR:

Malkina, L.I., Engineer

67-6-3/23

TITLE:

The Heat Exchange Process in an Oxygen Gasifier for Aircraft

(Teploobmen v samoletnom kislorodnom gazifikatore)

PERIODICAL:

Nr 6, pp. 18-22 (USSR) Kislorod, 1957,

Received: April 7, 1958

ABSTRACT:

In the introduction to this paper the necessity of using oxygen in passenger planes and its suitable storage in such aircraft is discussed. Preference is given to liquid oxygen. For this purpose gasifiers of the type "KN>K-30" are used in the USSR. The heating necessary for gasification of the compressed oxygen is carried out at the expense of the temperature in the interior of the aircraft. It is pointed out that problems of the suitable construction of such gasifiers as well as their application in practice are still in the experimental stage. A particular difficulty for the computation of constructions in such apparatus, as also their application consists in the forming of the so-celled "coat of snow" on the spiral tube of the gasifier, which is caused by the g.eat difference in temperature between the liquid oxygen in the tube and the outside air. In this paper the attempt is made to investigate this phenomenon and to develop suitable theories. Calculations are based upon the form-

Card 1/2

The Heat Exchange Process in an Oxygen Gasifier for Aircraft

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67-6-3/23

STREET, OUR DESCRIPTION OF THE PROPERTY OF THE

ula by M.A. Mikheyev: Nu<sub>m</sub> = 0.54(Gr·Pr)<sub>m</sub>, which is, however, said not to correspond to real conditions because heat emission is different at different points of the spiral tube of the gasifier. After mathematical calculations, which in this case comprise 11 formulae, the conclusion is drawn that this manner of determining the course taken by temperature in the "coat of snow" is but of little use. The attempt to solve this problem further according to the formula by Laplace-Carlson leads to the conclusion that only in this way a mathematical solution can be found, which, however, cannot be in any way connected with the physical side of this problem. It is said in conclusion that

 $Nu_{\mathbf{m}} = (Gr_{\bullet}Pr)^{\frac{7}{8}}$ 

represents a suitable approximated formula. There are 3 figures, 1 table, and 3 Slavic references.

AVAILABLE:

Library of Congress

Card 2/2

MALKINA, L. I., Cand of Took Toi -- (dina) "In continuing the case that for a limit of Aircraft Oxy on Generators," Moseaw, 1959, 14 or (Moseaw Institute of Clemical Machine-Beilding) (KL, 3-13, 114)

24 (8) AUTHOR:

Malkina, L. I. Engineer

SOV/67-59-4-5/19

TITLE:

Heat Exchange in Oxygen Gasifiers for Airplanes

PERIODICAL:

Kislorod, 1959, Nr 4, pp 27-29 (USSR)

ABSTRACT:

The frost layer forming on the outer tube walls of tubular evaporation systems for low-boiling liquids strongly influences the heat exchange between the warmer ambient and the liquid evaporating in the tube. The dependence of the thermal conductivity coefficient on the volumetric weight of the frost layer had already earlier been investigated by Schropp; the tube wall temperatures, however, were then merely of -10 to -20°C. Other authors (Refs 2, 3) investigated the influence of the frost layer on the heat transfer coefficient k, but only down to tube temperatures of -20°C. The author of the present paper investigated this influence as exerted on the heat transfer coefficient, based on the evaporation of liquid oxygen in spiral tube vaporizers for airplanes, at considerably lower temperatures (at -150°C). When interpreting the experimental results he obtained a general empirical relation for the determination of k, in which the frost layer is

Card 1/2

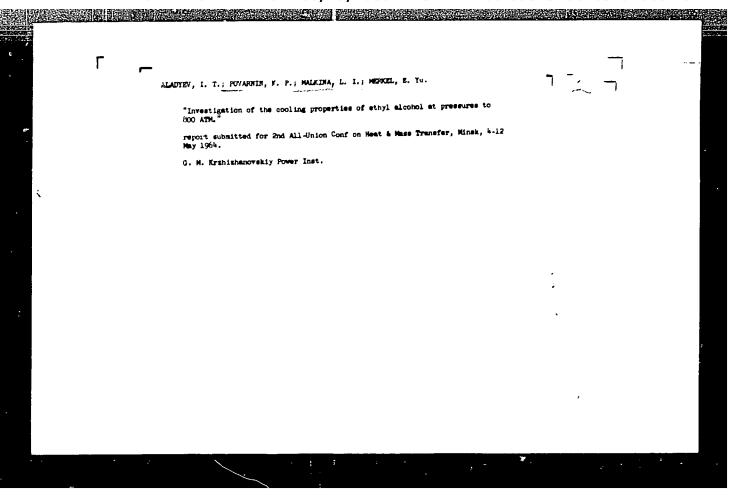
considered. It holds: k = + wecp; we was experimentally determined

Heat Exchange in Oxygen Gasifiers for Airplanes

SOV/67-59-4-5,19

as being  $\psi = 0.022 \; \mathrm{Gr} \cdot \mathrm{Re}^{-0.9}$ ; w[m/sec],  $\gamma$ [kg/m<sup>3</sup>]. Oxygen gasifiers constructed according to these notions safely confirmed the results obtained with the research work. There are 3 figures and 4 references, 3 of which are Soviet.

Card 2/2



L 9799-66 EW. : : //EWT(m)/ETC/EPF(n)-2/EWG(m)/EWP(1)/T RPL WW/JW/WE/GS/RM SOURCE CODE: ACC NR. AT6001352 UR/0000/65/000/000/0059/0062 明5 AUTHOR Alad'yev, I. T. Povarnin, Malkina Herkel!. Ye. Yu. W. Power Institute im. G. M. Krzhizhanovskiy ORG: **TEnorgeticheskiy** 16 institut) 15 TITLE: Investigation of the cooling properties of ethanol at pressures up to 800 x 9.8 x 104 newtons/meter2 SOURCE: Teplo- i massoperenos. t. 1: Konvektivnyy teplocomen v odnorodnoy srede (Heat and mass transfer. v. 1: Convective heat exchange in an homogeneous medium). Minsk, Nauka 1 tekhnika, 1965, 59-62 21,44,55 TOPIC TAGS: ethanol cooling, heat transfer ABSTRACT: The experiments were carried out in a flow of alcohol in 1Kh18N9T stainless-steel seamless tubes with inside diameters of 0.0006 to 0.0021 meters and length to diameter ratios from 20 to 175. Tube wall temperature reached 973K, the temperature of the liquid varied from 288 to 623K, and the flow velocity of the alcohol was 5 to 60 meters/sec. The maximum specific heat fluxes reached 35 x  $10^6$  x 1.163 watts/meter2. The experiments showed that heat transfer at pressures of 300 x 9.8 x 104 newtons/meter2 is accompanied by thermal Card 1/3

L 9799-66-ACC NR: AT6001352

decomposition of ethanol with the formation of a coke-like deposit on the contact surface. Thermal decomposition of ethanol at a flow velocity less than 30 meters/sec starts at wall temperatures of 623-6731 and is practically independent of the liquid temperature. At higher velocities, decomposition of the alcohol is not observed even at a wall temperature of 973 K. At a pressure of 800 x 9.8 x 104 newtons/meter2, thermal decomposition was not observed. In the experiments at 300 x 9.8 x 104 newtons/meter2, pseudo-boiling was observed and led to an increase in the heat transfer rate. Pseudo-boiling was not observed at the pressure of 800 x 9.8 x 104 newtons/meter2. In the fully developed boiling at a pressure equal to or greater than 300 x 9.8 x 104 newtons/meter2, heat transfer to ethanol can be calculated by the laws of convective heat transfer. The data obtained satisfy the equation

 $Nu_{l_g} = 0.021 \, \text{Re}_{l_g}^{0.0} \, \text{Pr}_{1g}^{0.43} \left(\frac{\text{Pr}_{1g}}{\text{Pr}_{1g}}\right)^{0.25} \left(\frac{l_s}{d}\right)^{0.2}$ 

where subscripts lg and w refer to the liquid and wall, respectively, and  $l_{\star}$  is the length of the tube from the start of heating to the calculating section. Analysis of the experimental results shows that there exists an optimum pressure of the applied pressure at which pseudo-boiling is most developed. Further increase in pressure leads to a worsening of conditions for the formation of a new phase and the generation of pseudo-boiling.

Cord 2/2

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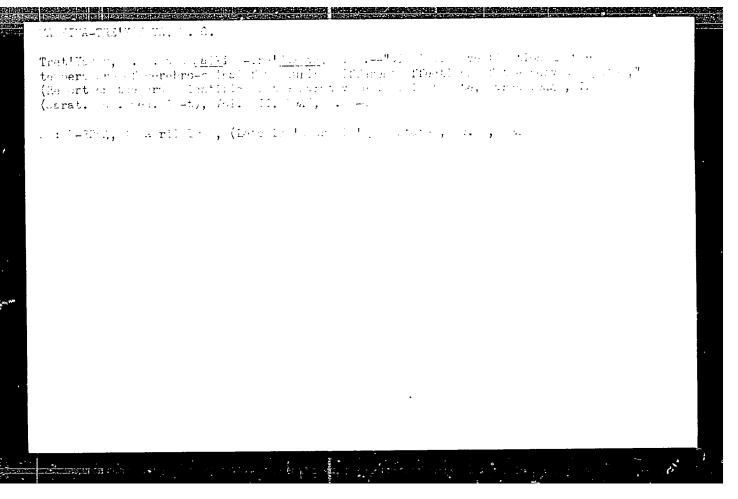
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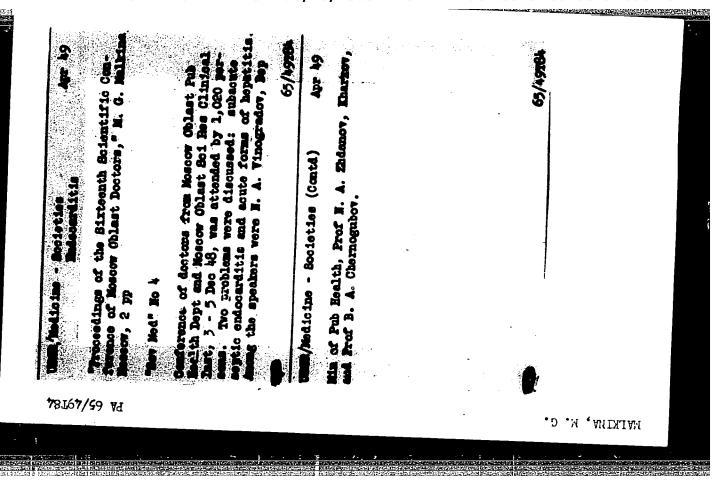
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## UBSR/Medicine - Virus Diseases

Nov 51

THE THE PROPERTY OF THE PROPER

"Development of Cirrhosis of the Liver as a Result of Botkin's Disease," M. G. Malkina, First Therapeutic Clinic, Moscow Oblast Sci Res Clinical Inst imeni M. F. Vladimirskiy

"Sov Med" Vol XV, No 11, pp 21-25

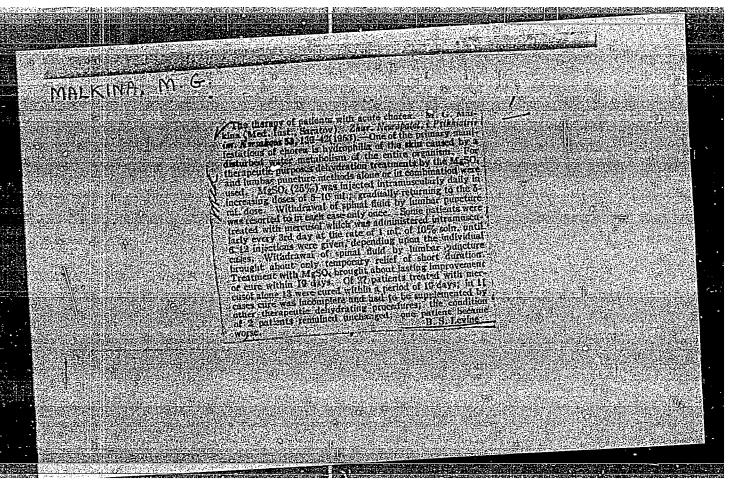
According to clinical observations, all forms of Botkin's disease (including light forms free of jaundice) may rapidly result in cirrhosis of the liver.

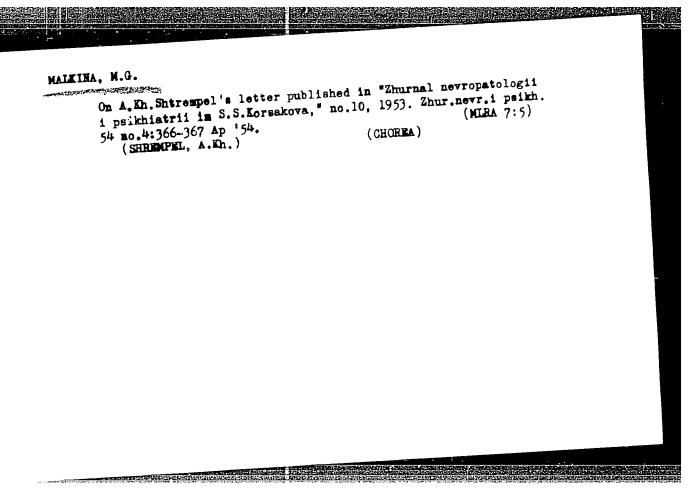
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tonsillectomy the following signs and symptoms appeared; a non-glycosuric posuria, a progressive exhaustion and adynamia, loss of pubic and axillary hair, a persistent subnormal temperature, low blood pressure figures, a low blood sugar level and anorexia, changing subsequently to bulimia. Only I year after the onset of the disease psychical changes became apparent; negativism, malice to his relatives, unsteady delirious ideas of being poisoned, nonsensical hypochondriacal thoughts, fragmentary hallucinations, languor, depression, apathy, cirritability. During life, a syphilitic nature of the disease was supposed - on account of the anamnestic data and of a temporary improvement following the specific therapy with biochinol and antibiotics. The clinical diagnosis was confirmed at post-mortem examination of the brain. Lesions of vessels of a syphilitic type and a diffuse gummatous infiltration were found mainly in the diencephalon and chiasma; there were none in the hypophysis. Analysing the described case, we see that Simmonds' disease can be accompanied by polymorph and temporary psychopathological changes of an asthenic-depressive syndrome type - emotional lability, irritability, negativism; it is important to observe this in the differential diagnosis from schizophrenic diseases. In connection with the localization of the lesions in the diencephalon, disturbances of its function - the non-glycosuric polyuria, bulimia, impaired thermoregulation are observed. Such overlap blurs the picture of the basic disease and leads to a wrong diagnosis. Krimsky - Moscow (VI, 3, 8)

MAIKINA, M.G., kandidat meditsinskikh nauk (Saratov); ARKHANGEL'SKIY, A.V., kandidat meditsinskikh nauk (Saratov)

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(SIMMOEDS: DISEASE, complications, ment. disord. (Rus))

(MENTAL DISCEDERS, etiology and pathogenesis, Simmonds' dis. (Rus))